informalities present in the application as filed and to more clearly describe the invention.

The Applicant has submitted herewith replacement sheets 99, 143, and 144. Replacement sheet 99 corrects improper shifting of the columns of the table of page 99 as amended on May 2, 2000. Likewise, replacement sheets 143 and 144 correct improper shifting of the columns of the table on pages 143 and 144 as amended on May 2, 2000.

Claims 1, 2, 5-7, 10-14, and 77-87 of this application correspond to the allowed claims of U.S. Patent Application 09/137,283. U.S. Patent Application No. 09/137,283 was allowed on April 17, 2000. Therefore, the Applicant respectfully requests the Officer to issue another Written Opinion in light of this amendment and the amendment filed on May 2, 2000.

Respectfully submitted,

Date: 9/18/00

Jeffrey S. Standley / Jen

Jeffrey S. Standley
Attorney for the Applicant
Registration No. 34,021
Standley & Gilcrest LLP
495 Metro Place South
Suite 210
Dublin, Ohio 43017-5319
Telephone: (614) 792-5555
Facsimile: (614) 792-5536

Basis = 1.0 x 10^9 Btu/Hr Heat Release Rate as Input

Fuel Characteristics	**Current Coal**	**Upgraded coke**	**Results**
VCM (%wt)	40.0	16.0	60% Lower
Ash (%wt.)	9.1	0.3	97% Lower
Moisture (%wt.)	3.6	0.3	92% Lower
Sulfur (%wt)	4.0	4.3	8% Higher
Heating Value (MBtu/lb)	12.9	15.3	19% Higher
Fuel Rate (Mlb/Hr)	77.8	65.4	16% Lower
Pollutant Emissions: Uncontrolled/Controlled			
Ash Particulates (lb/MMBtu or Mlb/Hr)	7.1/0.4	.2/.01	97% Lower
Sulfur Oxides (lb/MMBtu or Mlb/Hr)	6.2/6.2	5.6/.6	90% Lower
Carbon Dioxide (lb/MMBtu or Mlb/Hr)	238	210	12% Lower

This example demonstrates major benefits from the application of the present invention. The upgraded petroleum coke has substantially lower ash and moisture contents, compared to the existing coal. These factors contribute greatly to (1) the ability to burn successfully with lower VCM and (2) a fuel heating value that is 19% higher. In turn, the higher heating value requires a 16% lower fuel rate to achieve the heat release rate basis of one billion Btu per hour in the boiler. As noted previously, this lower fuel rate and the softer sponge coke significantly reduce the load and wear on the fuel processing system, while increasing the pulverizer efficiency and improving combustion characteristics.

The ash particulate emissions (ash from the fuel) are 97% lower than the existing coal, due to the lower ash content and higher fuel heating value. In this manner, fuel switching to the upgraded coke unleashes 97% of the capacity in the existing particulate control device. This excess capacity can now be used for the control of sulfur oxides via retrofit flue gas conversion technology.

applications. The present invention anticipates effective integration of this technology. Similar to the previous embodiment, the upgraded coke of the present invention has many desirable characteristics of the activated carbon. In many cases, the upgraded coke can be readily modified to be effectively used as the activated coke. Again, the coke loses activation after numerous cycles of use and regeneration. Apparently, this occurs more quickly in the high-sulfur applications. Deactivated coke can then be blended into coke fuel and subsequently burned in the combustion system.

In a similar manner, the upgraded coke of the present invention can be used for activated carbon technologies for the removal of air toxics (e.g. mercury), carbon dioxide, or other undesirable flue gas components. The activated carbon technologies for these components system can be integrated (1) fully into the SOx/NOx activated coke system (to the extent possible), (2) share auxiliary systems, or (3) work independently with or without the SOx/NOx activated coke system. In any case, deactivated coke can be blended into the coke fuel and subsequently burned in the combustion system.

E. *EXAMPLE 3*: Low-Sulfur Lignite Coal vs. Medium Sulfur Coke with Dry Sorbent Injection

Another power utility has a conventional, pulverized-coal fired utility boiler that currently burns a low-sulfur, lignite coal from Texas. The existing utility has a large-capacity, particulate control device with no sulfur oxides control. Full replacement of this coal with a medium-sulfur, petroleum coke produced by the present invention would have the following results:

Basis = 1.0 x 10^9 Btu/Hr Heat Release Rate as Input

Fuel Characteristics	Current Coal	Upgraded coke	Results
VCM (%wt)	31.5	16.0	49% Lower
Ash (%wt.)	50.4	0.3	99+% Lower
Moisture (%wt.)	34.1	0.3	99+% Lower
Sulfur (%wt)	1.0	2.5	150% Higher
Heating Value (Mbtu/lb)	3.9	15.3	290% Higher
Fuel Rate (Mlb/Hr)	254	65.4	74% Lower
Pollutant Emissions: Uncontrolled/Controlled			
Ash Particulates (lb/MMBtu or Mlb/Hr)	128/6.4	0.2/.01	99+% Lower
Sulfur Oxides (lb/MMBtu or Mlb/Hr)	5.1	3.2/.96	37/81% Lower
Carbon Dioxide (lb/MMBtu or Mlb/Hr)	315	210/150	33/52% Lower

This example further demonstrates the beneficial application of the present invention. Again, the upgraded petroleum coke has substantially lower ash and moisture contents, compared to the existing coal. These factors contribute greatly to (1) the ability to burn successfully with lower VCM and (2) a fuel heating value that is 290% higher. In turn, the higher heating value requires a 74% lower fuel rate to achieve the heat release rate basis of one billion Btu per hour in the boiler. As noted previously, this lower fuel rate and the softer sponge coke substantially reduce the load and wear on the fuel processing system, while increasing the pulverizer efficiency and improving combustion characteristics.

The ash particulate emissions (ash from the fuel) are >99+% lower than the existing coal, due to the lower ash content and higher fuel heating value. Consequently, fuel switching to the upgraded coke unleashes >99% of the capacity in the large, existing particulate control device. Part of this excess capacity can now be used for the control of sulfur oxides via retrofit SOx FGC technology.

In this example, dry sorbent injection into the combustion system with the excess capacity of the existing PCD is sufficient to achieve the desirable sulfur oxides control. Dry